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ABSTRACT

Theories of learning and instruction usually are grounded in psychological and epistemological assumptions. However, these theories ignore the child in relation to his or her cultural and institutional context and ignore the schoolteacher from the social context that regulates the process of transmission and acquisition of knowledge and skills. For this reason, it is necessary to have a sociological foundation in order for a theory of learning and instruction to be successful. Based on a broader study and employing Bernstein's theory of pedagogic discourse, this research examines three different teaching pedagogic practices that can be equated to those identified in the psychology of learning as learning by discovery, learning by guided discovery, and reception learning. The curriculum in its broader sense includes curriculum content, pedagogic practice, and evaluation. Analysis of the data considers their temporal and spatial dimensions such as interactions among agencies' spaces, agents, and discourses. For each of these dimensions, the power relations (classification) and control relations (framing) are shown and how they are realized in the classroom context is described. In addition, an analysis of the differences between pedagogic practices, their meanings, and potential influence on students with different social backgrounds are discussed. (KM)

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TOWARDS A SOCIOLOGICAL THEORY OF INSTRUCTION: PEDAGOGIC PRACTICES AND POWER AND CONTROL RELATIONS

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TOWARDS A SOCIOLOGICAL THEORY OF INSTRUCTION: PEDAGOGIC PRACTICES AND POWER AND CONTROL RELATIONS

1. INTRODUCTION

Theories of learning and instruction have been fundamentally grounded on psychological and epistemological assumptions. As Domingos (1987, 1989 b) has pointed out, these theories, particularly concerned with the development of the child (e.g. Bruner) and the organization and ordering of subject matters in school (e.g. Gagné), abstract the child from her cultural and institutional context and the school/teacher from the social context which regulates the processes of the transmission and acquisition. The failure of the new paradigm to recognize the sociological context of the learning at school may have affected the success of this paradigm in improving school achievement of the vast majority of students, more specifically the disadvantaged children (in terms of social class, race, gender). The social relations which characterize the transmission--acquisition context in the classroom, particularly the relations which regulate the interaction teacher-student (and student-student), and also the social context of the student and of the school have not been systematically explored.

A successful theory of learning and instruction must go beyond the traditional fields of knowledge intimately related to education, i.e. psychology and epistemology and integrate other areas, namely the sociology of education. It is necessary to move in the direction of constructing a sociological theory of learning and a sociological theory of instruction, as a first step to that integration.

A sociological theory at instruction, as all theories of instruction, must be normative and prescritive, setting the principles in which the process of transmission-acquisition should be based and detailing definitions of norms and procedures to be followed in the classroom. For that to be accomplished the

theory of instruction must be based on a theory of learning.

Sociological theories do not provide, in general, principles for explaining how learning occurs. We found in Bernstein's theory those principles. In fact, we can say that Bernstein's work, although more general, *contains* in itself a theory of learning, from which it is possible to derive a theory of instruction. Further, the strong conceptual structure it possesses, provides the conceptual instruments for the construction of such a theory.

However, its concepts are developed at a very high level of abstraction and as such they must be worked out in more detail so that the implicit theory of learning can emerge clearly and the theory of instruction can be developed. We consider that the study described in this article is a step, although modest, towards those theories.

The research, which is part of a broader study in science education (ESSA project[1]), is based on Bernstein's theory of pedagogic discourse and focusses on the codes of educational transmission through which official pedagogic discourse is realized in the school context. However, we want to make clear that, although fundamentally grounded in this theory, other sociological perspectives are considered in the project

According to Bernstein, the elaborated orientation institutionalized in the school can be realized through different modalities of the pedagogic code, depending on the power and control relations they entail. Such modalities of code are modalities of pedagogic practice. The detailed sociological theory of pedagogic practice permits simultaneously the analysis of the meaning of that practice and its relation to learning and instruction.

Three different pedagogic practices were constructed on the basis of the theory[2]. These three pedagogic practices are analysed at the microlevel of the curriculum in its broader sense (curriculum, pedagogic practice and evaluation). The analyses

consider their temporal and spatial dimensions, i.e. interactions between agencies/spaces, agents and discourses. For each one of these dimensions are shown the power relations (classification), the control relations (framing) and how they are realized in the classroom context (indicators are given). On the basis of this analysis, the paper proceeds to a discussion of the differences between the pedagogic practices, their meaning and also their potential influence on students with differential social background.

2. SOCIOLOGICAL ANALYSIS OF DIFFERENT PEDAGOGIC PRACTICES

2.1 Focus of the analysis

We selected for the analysis three modalities of pedagogic practice which are roughly close to the practices identified in the psychology of learning as learning by discovery, learning by guided discovery and reception learning. The pedagogic practice which presents characteristics closer to the learning by discovery (P_1) constitutes, in sociological terms, a pedagogic context in which the teacher has apparently relatively little control on the form the student's learning takes, the student having a certain autonomous space in the process of teaching--learning (particularly in the area of the acquisition of specific skills). In contrast, the pedagogic practice with characteristics nearer to the reception learning (P_3), represents, in sociological terms, a pedagogic context in which the teacher has a high control on the form of learning, the student having a reduced or no autonomy in the teaching-learning process. The pedagogic practice closer to the guided discovery (P_2), represents a pedagogic context with intermediate characteristics, the teacher having greater control than in P_1 and less control than in P_3.

However these psychological characteristics do not give rise to descriptions of the learning process above the level of

classroom interaction. They do not give rise to descriptions which show the social assumptions of theories which act selectively on those who can achieve with respect to the social characteristics of the learner. Further these theories of pedagogic learning are not expressed in a language which allows us to see how the macro-structures of the school (organizational and spatial features) and the external structures of family and community act to influence pedagogic achievement. Finally psychological approaches to school achievement are unable to describe how the macro-distribution of power and principles of control translate into micro-structures of power and micro--structures of control at the level of the school so as to achieve their reproduction.

Bernstein's theory allows for the above descriptions through a common set of concepts. In these terms the three pedagogic modalities previously mentioned are translated into different modalities of power and control which regulate the constitution of the specific pedagogic practice and select those who can achieve within it.

For Bernstein pedagogic discourse consists of the embedding of two discourses: An instructional discourse which transmit various skills and their relations to each other and a regulative discourse which transmits concepts of character, conduct and manner, the moral basis of the social order of school and classroom and constructs specific student identities. The regulative discourse of the school defines how the community, parents and children will be defined and what expectations will be held with respect to them.

Although the message of the instructional discourse is a consequence of the regulative discourse, it is a matter of special interest, in the analysis, that the differential realization of power relations between transmitter and acquirer can be separately studied in the instructional and in the regulative contexts. We can think of learning situations in which the power relations between transmitter and acquirer are differently realized according to the instructional and

regulative nature of the classroom interaction. For example, the teacher can select the knowledge to be learned, which shows that he/she has control on this particular aspect of the instructional context but, in the regulative context, the student may be allowed to interrupt the teacher whenever he/she wants. In the first case, the power of the teacher is explicitly realized whereas in the second case that power is more implicit. Other combinations are possible showing the importance, from an analytical point of view, of distinguishing relations and practices which define the instructional context from the relations and practices which define the regulative context of the pedagogic practice.

Furthermore, the pedagogic context of the school also includes relations which may interfere with the pedagogic practice of the classroom and, consequently, the teacher-student interaction. The organizational relations between spaces and discourses and the relations between school and family/community are aspects which should be considered in the characterization of a pedagogic practice.

Thus, although the fundamental feature of a pedagogic message refers to the contextual realization of power relations between transmitter and acquirer (modalities of practice translate differences in this power relation), the study considers not only the instructional and regulative dimensions which characterize the interaction teacher-student, but it also analyses the sociological components that, at the micro-level of the everyday teacher-student interactions, translate the power components which constitute, maintain and reproduce the macro-relations between different categories (discourses, spaces, subjects) in the context of the school/classroom.

We intend to show how the three pedagogic practices give rise to different modalities of instructional discourse with reference to principles of selection, sequence, pacing and criteria and to different modalities of regulative discourse particularly with reference to rules of hierarchy and social order. These different modalities entail different theories of instruction which produce

different modes of communication between teacher and taught and between the taught. Our analysis will show the different forms of interaction both in the instructional and regulative discourse in the three pedagogic practices. These analysis of the classroom context will be set in the context of the macro-discoursive and organizational structures both of the school and the students' families.

Further we shall extend the analysis to make explicit the power relations between discourses and between spaces which appear in the context of the classroom as distintive markers of what is and is not legitimate to realize (in terms of the meanings contained in the instructional discourse and in the regulative discourse). The discoursive relations will be then analysed.

Furthermore, the form the teaching-learning process takes contains messages which express different relations between the school and the family/community. The analysis considers also the relations which constitute indicators of the value attributed, in the pedagogic practice, to the discourses, spaces and interactions external to the school context.

The characterization of the pedagogic practices is based upon an analysis whose subtlety permits the study of the process of transmission-acquisition not only as a realization of the relations at the inter-contextual level, but also at the intra--contextual level. At the inter-contextual level (school context--external contexts) the analysis considers relations between different areas of knowledge (e.g. academic-non academic), different pedagogic spaces (e.g. school-local community) and different pedagogic subjects (e.g. teacher-parents). At the intra-contextual level (school) the analysis considers the various categories which shape the pedagogic practice, the relations between discourses, spaces and subjects. These are analysed both at the level of the organization of disciplines and the spatial organization of the school and at the level of the classroom in terms of the organization of different content matters, the spatial arrangements of the classroom, teacher-

-student interaction and student-student relations with respect to social class, race, gender, school achievement.

2.2 The concepts of classification and framing as instruments of analysis

Bernstein's concepts allow us to hold together and see the dynamic relations between two levels of analysis, structure and interaction. The level of interaction is both the relay of principles of the structure and the potential source of their change. Structure is always conceived as the principle of the relations between categories. These categories may be categories of knowledge (school subjects), categories of agents (students) categories of spaces (teacher's space). These categories may be specialized with clear cut boundaries well insulated from each other, in which case Bernstein refers to a principle of strong classification (C^{+}) or the categories may be less specialized with less clear cut boundaries with weaker insulation, in which case Bernstein refers to a principle of weak classification (C^{-}). Power relations mantain and are relayed by the principle of classification. For it the insulation (weak or strong) is broken then power relations will be activated to repair, restore the insulation and so the principle of classification. From this point of view different modalities of power are mantained and relayed by different principles of classification (C^{+}).

At the most general level the spatial markings of a school, discourses, practices, agents, contexts, are realizations of its principle of classification and thus of its mode of power relations. Thus we have power relations -> classification -> boundaries -> identities which create the structural level of the school, its pedagogic discourses and school's external relations. This structural level, or rather its principles, are relayed, mantained and sometimes changed by the interactional level: the level of control.

The interactional level is the level of communicative interaction between teachers, teachers and students, between

students, between teachers and parents. This interactional level of communication is analysed by Bernstein by the concept of framing. In simple terms and briefly, framing refers to who controls the principles of legitimate communication between the various participants in the pedagogic context of school, family and community. In the case of the school's pedagogic practice, framing refers to the controls on the instructional discourse (that is the controls on the discursive rules of selection, sequence, pace and criteria) and the control on the regulative discourse (principles of conduct, relation and social order). When framing is strong the transmitter controls these rules; when framing is weak the student has apparentely more control over some or all of the rules. It is important here to point out that the framing of the instructional discourse of the pedagogic practice may vary independently of the framing of the regulative discourse. The strenght of the classification can also vary independently of the strenght of the framing.

The analysis can be made more delicate by distinguishing between the classificatory principle within the context of the pedagogic practice (that is the spatial organization of objects and tasks) referred to as C_i where i refers to the internal context. The classificatory principle which relates the context to an external context is referred to as C_e where e indicates the relations to the external context. Similary we can distinguish between the value of the framing over the communication within the pedagogic context (classroom), F_i and the framing over external communication which may legitimately enter the classroom contexts, F_e. Thus the differences in the values of C_{ie}/F_{ie} in terms of strong and weak (+/-) will describe different modalities of pedagogic practice, the school context and its external relations at *both* macro and micro-levels. The concepts show how different distributions of power (classification) and different principles of control (framing) shape pedagogic practices which become relays of power and control and in this way enter into and attempt to regulate the consciousness and identities of teacher, students, parents.

Our task will be to take this very abstract theory and show concretely how we can arrive at empirical markers at the macro/micro-relations of the school which will enable us to distinguish with great delicacy between the three pedagogic practices we briefly referred to earlier. In order to do this we shall construct five degrees of classification (C^{+++} and C^{--}) and five degrees of framing (F^{++} and F^{---}) and give indices of what counts as a change in any one value.

The theory allows us not only to describe pedagogic codes and show their regulation of the organizational transmission and acquisitional process of any pedagogic practice but it can also be used to design pedagogic practices and their organizational context which are likely to achieve particular pedagogic outcomes.

Figure 1 presents the scale used. We can see the correspondence between the values of classification and framing and the respective qualitative characterization and also the correspondence which we established between the power relations (classification) and the realization of these relations (framing).

(insert figure 1 about here)

These scales were used in the analyses between discourses and between spaces and in the analyses of the global relations between subjects (transmitter-acquirer, acquirer-acquirer and teacher-family). In order to simplify the analyses which follow we have assumed that the classification is constant and strong across the three pedagogic practices in the teacher-student relation, at the specific levels of discursive and hierarchical rules. Framing will differentiate the practices.

It shoud be noticed that, in the interaction student-student, the correspondence between the power relations (classification) and the realization of these relations (framing), referred to in

the construction of the scales (figure 1), does not hold entirely, as expressed. The fact that the relations of communication between different groups of students (gender, race, etc.) are different in the regulative and in the instructional context, the framing being relatively weaker in the former, shows that the same value of classification may be followed by different framing values in the two contexts.

2.3 The theoretical profiles: comparative analysis

The definition of the profiles was based on social relations in order to construct the theoretical model of each practice. The relations were organized in two main groups referring to the structural relations and to the interactional practice. The interactional practice respects to the relations transmitter--acquirer and it is organized to see those relations at the general and the specific levels. It also respects to the relations acquirer-acquirer at the general level. The relation between teacher and family constitutes a separate sub-group. The relations which differentiate the three pedagogic practices were the following:

Structural relations

Relation between discourses:
Academic - non-academic; different disciplines; different subject matters of the discipline (different level of abstraction and similar level of abstraction).

Relation between spaces:
School-local institutions; school-other academic institutions; classroom-other spaces of the school; teacher's space--students' space in the classroom; spaces of different students according to their social class, race, gender and school achievement.

Interactional practice

General instructional practice:
Transmitter-acquirer; acquirer-acquirer (social class, race, gender, school achievement).

General regulative practice:
Transmitter-acquirer; acquirer-acquirer (social class, race, gender, school achievement.

Specific instructional practice (transmitter-acquirer):
Selection (knowledge, competencies and activities); sequence of learning; pacing of learning; criteria of evaluation.

Specific regulative practice (transmitter-acquirer):
Hierarchical rules.

Relation teacher-family :
Hierarchical rules.

These relations constitute a model for the three practices. The formal features of the model were translated into the expected lived practices of the classroom in concrete detail. Clearly we cannot show all the modellings and their concrete translation in this paper[3]. We shall give the general modelling of the regulative and instructional context and their concrete translation as lived classroom practices with respect to the interaction between teacher and students in those contexts. The modelling and its translation for the three practices (P_1, P_2, P_3) is shown in figure 2.

(insert figure 2 about here)

On the basis of the modellings and their concrete translation we present in figure 3 the relative values of classification and framing for the three pedagogic practices. This figure presents the sociological characteristics which define the pedagogic context of these practices and derives from the detailed characterization referred above.

(insert figure 3 about here)

3. DISCUSSION AND CONCLUSIONS

So far we have been characterizing three pedagogic practices using the concepts of classification and framing to show how different school practices can be compared and distinguished in terms of power and control with a high degree of detail. Here what we intend to do is to discuss the social, intelectual and cultural consequences of these practices. We shall see that each practice may have positive or negative consequences for achievement, students' sense of power and modes of social relation. The three practices may have in different ways similar consequences for the reproduction of inequalities. One of the crucial implications of this analysis is the possibility of designing a pedagogic practice which has the most favourable outcome with respect to the level of achievement about cognitive competencies and social dispositions.

If we take figure 3 as a general reference, we are able to see that pedagogic practice P_3 is the modality which constitutes the communicative context with characteristics nearer to the dominant relations of society, which are reproduced through the social relations of this pedagogic practice. However, there is a blurring of boundaries with respect to race and gender which reflects contemporary changes in society's attitudes, as they are institutionalized at school. In the relation between subject matters at the micro-level of a discipline there is also in this practice (as in P_2 and P_1) a blurring of boundaries, that is the integration of the various topics by broad integrating concepts. This was made on purpose so there could occur a significant learning based on the understanding and application of knowledge rather than on factual knowledge[6].

In contrast pedagogic practice P_1 constitutes a communicative

context in which the social relations, although determined by the same principle of classification, tends to create the possibility of change of that principle. The basic social unit of acquisition is based on the interactive/cooperative rather than competitive relations between students (social class, gender, race) and, as such, the concept of pupil changes from isolated and competitive to interactive/cooperative. In this way P_1 promotes a different concept of social relations. The group can, within certain limits, substitute the norms of the teacher by its own norm of production and set its own realization rules (at both the instructional level and at the level of the norms of conduct). The modality of practice P_1, although creating a context in which the challenges are possible, it is limited by the regulation imposed by the educational system.

The modality of practice P_2 constitute a communicative context of reproduction in which the basic social unit of acquisition is apparently founded on cooperative relations between students (social class, race, gender) but in which the tasks (mainly in the instructional context) of the group are highly regulated by the norms of the teacher, which limits the space of change of the principles of classification. This mode of cooperation is more rhetoric than real, as it masks the competitive nature of the act of learning. However, as in P_1, the sociological differentiation of the acquirers within a working team creates a context of intra-group communication which contains the potential for change of the principles of social integration of the students; they have access to forms of communication which tend to value the norms and knowledges of different categories of subjects.

The distinction between power and control relations according to different categories of discourses, spaces and subjects creates the possibility of investigating, in analytical terms, the role of the teacher in interaction with the students. Thus, for example, the presence in the classroom of the students' everyday knowledge may have different meanings. If the teacher uses knowledge of the family/local community simultaneously with the knowledge of the discipline, he is legitimazing, in the

pedagogic message, the knowledge which is part of the everyday experience of different children. In this situation (the case of P_2) there is a weak external framing (Fe^-) with respect to the relation between academic and non-academic knowledge. This can also affect the meaning of the relation between acquirers, if in fact what is present is the everyday experience of *all* children (it contains the potential to weaken the power relations between students socially differentiated), but does not affect the power relations between transmitter and acquirer, if the knowledge is primarily selected by the teacher (the case of P_2). If the knowledges of the local community are selected by the children, in a learning context in which the acquirer intervenes actively, the relation between academic and non-academic acquires a double meaning, perhaps affecting the power relations of the pedagogic practice, i.e. the relations transmitter-acquirer. In this situation (the case of P_1), there is not only a weak external framing (Fe^-) in the relation between academic and non-academic knowledge but there is a weak framing between transmitter and acquirer. In this second situation the boundaries between transmitter and acquirer are regulated by weak framing and this message contains the potential to weaken the power relations (and therefore the classification) crucial in the context of the classroom, i.e. the power relations teacher-students.

As Bernstein (cit. in Domingos *et al*, 1986) has pointed out, the ideological meaning of the classifications and framings which regulate any context of communication consists in studying the relations between the categories and communications which have undergone any change and those which have remained unaltered. Applying this idea to the example given about the knowledge present in the classroom, and restricting ourselves to the relation transmitter-acquirer, we can see how a change between the school-community relations set by the teacher may only be a change in the modality of control used by the teacher. The intervention of the students in the pedagogic contexts may also be no more than a change in the modality of control but it may also create a weakening of the power relations. Extending the reasoning to the acquirer-acquirer relation, the potential to

weaken the power relations between socially differentiated students is now greater than in the former situation, especially if in that situation the experience of advantaged children is the only one considered. Many other examples of combinations of the various relations analysed show the importance of doing a detailed analysis, if we want to understand the pedagogic practice in its whole complexity.

If we now consider that the forms of the socialization of the the children in their community, especially in the family context, these may represent diverse experiences of communication which may or may not facilitate the acquisition of the social role required by the school. The fundamental question here is to find out the modality(ies) of pedagogic practice whose characteristics are appropriate to the learning of all children, particularly disadvantaged children. An answer to this question may lead us in the direction of a sociological theory of instruction.

The pedagogic practice P_1, whose characteristics make it nearer to the learning by discovery, in Bernstein's terms has many characteristics of an *invisible pedagogy*. It seems, at first sight, to be the practice which has the attributes more favourable to the social integration of the children and, as a consequence, has the potential of improving the cognitive and socio-affective development of most students. The flexible spaces, the diversified materials, the integration of the various areas of the curriculum, the inter-relation with the children's everyday knowledge, together with the control on learning through discursive and hierarchical rules which take into account the specific attributes of the child transform the teacher-student relation. However, this interaction is based upon an implicit hierarchy which masks the power relations of the process of transmission-acquisition. Since, within certain limits (imposed by the official pedagogic discourse), the acquirer can organize his/her work, follow his/her own pace of learning and interfere in the evaluation, the learning is based on principles which, valuing the cultural diversity of the students, construct a

social order based on *cooperation* (rather than domination). The weakening of the boundaries between different categories of students extends inter-personal communication, through which a free expression of ideas is possible. This inter-change of experiences of different cultural environments may be an important factor in the constitution of a new class consciousness, leading the socially disadvantaged children to acquire a social role with access to new forms of realization in communication with others. The elaborated orientation institutionalized in the school and whose possession is crucial to the success of children in school, may be more equally distributed.

However, this mode of learning is based on class assumptions, having its origin in new modalities of control legitimated and sponsored by fractions of the middle class. These control modalities are not, in general, present in the families of lower social classes[7] and this can reduce the potential advantages of this form of learning. Given the form of their primary socialization these children may experience difficulties in acquiring the implicit messages of the regulative discourse of the school. Further, the invisibility of the discursive rules - particularly those of selection (knowledge, competencies, activities) and criteria which are not made explicit - can create difficulties for learning at the level of the instructional discourse. Thus the potential, we have referred above, created by this practice for developing an elaborated orientation, may, from this point of view, not be fulfilled. Moreover, this form of pedagogic practice can insulate the family from the school since many families lack understanding of what the school expects from their children and from them.

The awareness that child centered learning by discovery is based on a modality of control which constitutes the basis of the primary socialization of middle class rather than working class children, should lead us to be cautious of the efficacy of this process of learning for all children. Clearly it is important to give to the working class child the possibility of being active

in the child's own learning and to alter the social role which has been attributed to her by the family seems to be a crucial factor of change. However, it is necessary to create conditions which solve the problems we have pointed out, i.e. to develop a pedagogic practice with characteristics which facilitate both an active *meaningful* process of acquisition and a *high* level of achievement.

The pedagogic practice P_2 with characteristics near to the guided discovery learning creates conditions which favour, like P_1, the inter-change of experiences of different cultural environments, gives opportunities to the student to discuss his/her ideas, allows everyday knowledge to enter the classroom, and encourages cooperation. The heterogeneity of the student groups favours the weakening of boundaries between different categories of students who, feeling they are equally valued in the classroom, may come to assume a different positioning on the hierarchical structure of the classroom context. Since the discursive rules which regulate the instructional practice are explicit, this will facilitate both the students and the family understanding of the pedagogic code of the school. However, problems may arise, because the pacing of learning is not as weak as in P_1 and not all children will be able to respond to the rhythm required.

The pedagogic practice P_3, with characteristics near to the reception learning[8] has, in general, in Bernstein's terms the attributes of a *visible pedagogy* - the spaces are strongly classified, selection and sequence are explicit, the pacing of learning is strong and the criteria of evaluation are fixed and explicit. The learning is more centered on the discourse of the transmitter, the acquirer having little space for active intervention. The social order is based on explicit power relations and the hierarchical structure which characterizes the context of the classroom is maintained by a positional or imperative control which creates an unambiguous explicitly marked process of transmission-acquisition. The teacher's conduct is autocratic (and not apparently democratic as in P_1 and P_2) and, as

a consequence, the unique attributes (and realizations) of the students are less likely to be taken into account and expressed, which does not allow the inter-change of values and knowledges of diversified cultural environments.

Further the strong pacing of visible pedagogic practices creates the need for two sites of acquisition, the home and the school. The learning cannot be achieved without the home establishing pedagogic regulation of the child in accordance with the requirements of the school. Thus, despite the explicitness of the pedagogic process which makes it more understandable to disadvantaged parents visible pedagogies like invisible pedagogies require pedagogic support from the family. And where this is not available the children are less likely to achieve. Visible pedagogies have explicit sequencing rules which when combined with strong pacing distribute achievements according to the pedagogic competencies the child has acquired in the family. Further visible pedagogies draw sharp boundaries between the knowledge, practices and conduct they require and legitimate knowledge, practices and conduct considered to be inferior. In this way the lived practices and their cultural significance of disadvantaged social groups are excluded from the classroom context and disvalued. The child steps into a world in which his/her experience is neither recognized, realised or valued. Thus it is likely that unmodified visible pedagogies will be relays of inequalities between social groups external to the school through class based differential achievement within the school.

Even if we admit that the working class students or other disadvantaged groups have higher academic success in a pedagogic practice whose product of socialization is a competitive, passive, conformist individual, such process will not be favourable to the social integration of these children in a society which demands cognitive competencies and socio-affective dispositions which they will not possess. Middle class children do not depend on the school for their socialization in differential patterns of social relations, their access to

different contexts, the acquisition of an elaborated orientation, the development of high level competencies - the family provides for that. Here it is important to note that an Ausubelian type of reception learning (followed to a certain extent in P_3) only apparently is centered on the acquirer. From a sociological point of view, the transmitter has the control on the process of transmission-acquisition and the form this process takes does not leave space for the specific experiences, knowledge, values and cognitive structure of a particular child.

This discussion argues that students experiencing specific pedagogic practices may show differential scientific attainment and socio-affective development, depending on their primary socialization with respect to social class, gender, race.

We have considered three modal pedagogic practices, show how these pedagogic practices can be characterized in sociological terms, which provides a basis for distinguishing the psychological theories of instruction and the classroom practices which initially created the practices. This is possible because we based this study on a sociological theory with a strong conceptual structure.

The multiple combinations of code features can give rise to multiple pedagogic practices. To empirical research to find out the most effective pedagogic practice(s), with respect to the development of scientific competencies and socio-affective dispositions, means to analyse, at least, all the factors involved in the process of learning, and discriminated in this article. Successive empirical studies will lead us, we believe, to a more successful educational action.

The theoretical analysis described here was followed by studies carried out by the Project ESSA (e.g. Morais, Peneda, Medeiros, 1990, 1991; Fontinhas, 1991; Morais, Fontinhas, Neves, 1991; Antunes, 1991, Neves, 1991). The Project's research includes quantitative and qualitative studies of the school and of the family, at different levels of analysis, of both regulative and instructional discourse. The data obtained broad

the theoretical analysis we have here outlined.

This research developed by the Project ESSA may contribute not only to a sociological theory of learning, since it considers the sociological conditions of learning, but also to a theory of instruction since it gives direction to the teacher in his/her classroom practice. This paper should be seen as part of that broader study. As we pointed out in the beginning, this will be an important step towards a theory of pedagogic practice which integrates the many areas of knowledge involved in education, traditionally the province of psychology and epistemology.

NOTES

1. See studies carried out within the Project ESSA - Sociological Studies of the Classroom, for example: Antunes (1991); Fontinhas (1991); Morais, Fontinhas, Neves (1991); Morais, Peneda, Medeiros (1990, 1991); Neves (1991).

2. These practices were implemented with 10^{-} - 12^{+} years old children in the school subject Natural Sciences, during two academic years.

3. The modellings and their concrete translation can be seen in Neves, 1991.

4. Subject matters of different level of abstraction are, for example, facts and concepts.

5. Subject matters of similar level of abstraction are, for example, concepts of the same order.

6. Domingos (1987, 1989 a, b) has shown how pedagogic practices can differ in the conceptual demand they entail. It was intended to keep a high level of abstraction which should be equal in all pedagogic practices (instructional discourse), so that the results could be comparable.

7. The sociological study of the family carried out by Neves (1991),

within the research developed by the ESSA Project provides evidence for this assertion. Previous work directed and carried out by Bernstein has consistently reached that conclusion.

8. The reception learning has not necessarily the characteristics of P_3, namely in the hierarchical rules whose framing in this practice was planned to be strong.

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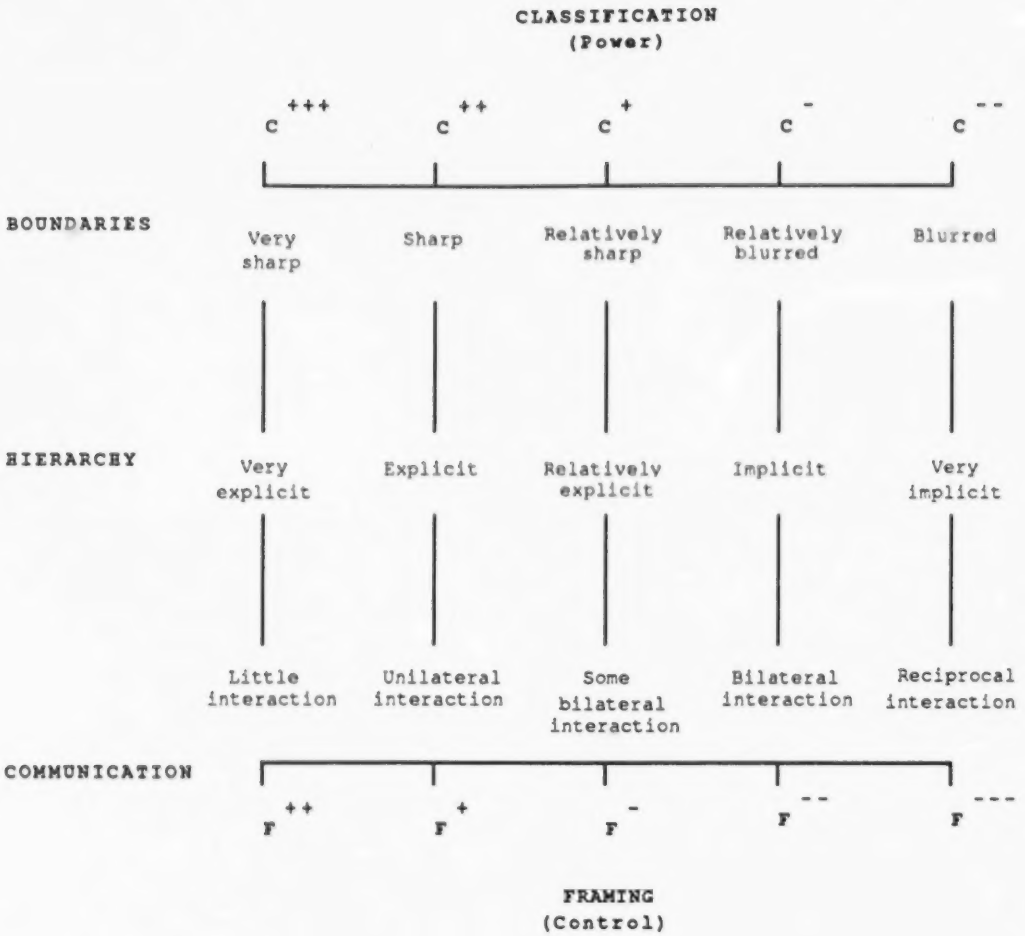

Figure 1 - *Classification and framing scales (and their inter--relation) used in the characterization of the relations which define the theoretical profiles of differential modalities of the pedagogic code.*

P_1		THEORETICAL COMPONENTS			INDICATORS IN THE CONTEXT OF THE CLASSROOM	
		Power relations (C)	Realization of power relations (F)		Realization of hierarchical rules	Realization of discoursive rules
			Regulative context (hierarchical rules)	Instructional context (discoursive rules)		
RELATIONS BETWEEN SUBJECTS	Interaction Teacher/student	Relatively sharp boundaries between teacher (transmitter) and students (acquirers). The teacher, in general, determines the legitimate relations between the subjects, the spaces, the discourses and the practices in both the instructional and regulative contexts of the classroom: power relations transmitter-acquirer re gulated by ci^+.	The form of communication between transmitter and acquirers is based upon fundamentally inter-personal control modalities (the specific attributes of students, concerning the norms of social conduct, are taken into consideration), remaining implicit the hierarchical nature of social relations between transmitter and acquirer and, as a consequence, the power of the transmitter on the form of communication in the classroom: modality of pedagogic practice characterized, in the regulative context of the classroom, by hierarchical rules Fi^{--}.	The form of learning of the students is based upon a theory of instruction relatively centered on the acquirer (the selection, sequence, pacing and criteria of evaluation of the students are, in general, taken into consideration), the domination of the transmitter discourse upon the acquirer discourse remaining relatively implicit and, as a consequence, the power of the transmitter on the form of learning of the acquirers: modality of pedagogic practice characterized, in the instructional context of the classroom by discoursive rules Fi^{-}.	The teacher does not indicate to the student the norms of social conduct in the classroom about: (a) punctuality; (b) occupation of the space; (c) posture; (d) how to talk to the teacher; (e) participation in classroom tasks (leaving implicit the norms of social conduct previously established) and takes into consideration the personal reasons of students' conduct (remaining implicit that it is the teacher who, in general, determines the form of communication in the classroom). Thus: 1. Within certain limits, the students may arrive in the classroom at different times, talk to the teacher in different ways, use a variety of spaces in the classroom and participate in the way they prefer in classroom tasks. 2. Whenever students go beyond the limits of the norms of social conduct established by the teacher (e.g. they arrive late, disrupt constantly the class, are not doing the tasks agreed, etc.), the teacher uses fundamentally personal appeals, asking the students the reason for their conduct and/or showing them the advantages and disadvantages of their attitudes (e.g. "Have you noticed that if you arrive late I will have to repeat what I have already said to your classmates?"; "If you constantly interrupt the class, your work will never be finished"; "If you keep not working, you cannot learn and you are also delaying the work of your group").	The teacher does not specify to the pupils: (a) the content matters; (b) the ordering which will be followed; (c) the time which will be spent in exploring the content matters; (d) how they are evaluated (leaving relatively implicit the selection, the sequence, the pacing and the criteria of evaluation previously established) and he/she takes into consideration, within certain limits, the students' intervention in the selection, sequence, pacing and criteria of evaluation (leaving relatively implicit that it is he/she who, in general, determines the form of learning of the acquirers). Thus: 1. In the development of TUs/lessons the students do free activities in which, whithin certain limits, they: (a) choose the knowledge and the activities (selection); (b) establish the ordering to be followed (sequence); (c) set the time for their activities (pacing); (d) self-mark the evaluation tests, define the objectives and the form of textual production and give their marks (criteria of evaluation). 2. Whenever the students intervene (or are asked to intervene) in the instructional practice of the class (in the selection, sequence, pacing and criteria of evaluation), the teacher restricts that intervention to the global plan he/she has previously established, using an indirect orientation of the students/groups' activities (which marks that he/she is the one who determines the "what", "when", "how" the students should learn).

Figure 2 - *Interactional practice transmitter-acquirer in the global context of the classroom.*

P2		THEORETICAL COMPONENTS			INDICATORS IN THE CONTEXT OF THE CLASSROOM	
		Power relations (C)	Realization of power relations (F)		Realization of hierarchical rules	Realization of discoursive rules
			Regulative context (hierarchical rules)	Instructional context (discoursive rules)		
RELATIONS BETWEEN SUBJECTS	Interaction Teacher/student	Sharp boundaries between the teacher (transmitter) and the students (acquirers). The teacher primarily determines the legitimate relations between the subjects, the spaces, the discourses and the practices in the instructional and regulative contexts of the classroom: power relations transmitter - acquirer regulated by C_i^{++}.	The form of communication between transmitter and acquirers is based upon inter-personal control modalities sometimes associated to positional control modalities (the specific attributes of the students, concerning the norms of social conduct, are very often taken into consideration), remaining relatively implicit the hierarchical nature of the social relations between transmitter and acquirer and, as a consequence, the power of the transmitter on the form of communication in the classroom: modality of pedagogic practice characterized, in the regulative context of the classroom, by hierarchical rules F_i^-.	The form of learning of the students is based upon a theory of instruction primarily centered on the acquirer (the selection, sequence, pacing and criteria of evaluation of the students are ocasionally taken into consideration), the domination of the transmitter discourse upon the acquirer discourse is made relatively explicit and, as a consequence, the power of the transmitter on the form of learning of the acquirers: modality of pedagogic practice characterized, in the instructional context of the classroom by discoursive rules F_i^+.	The teacher indicates to the students the norms of social conduct in the classroom about: (a) punctuality; (b) occupation of the space; (c) posture; (d) how to talk to the teacher; (e) participation in classroom tasks (making explicit the norms of social conduct previously established) but he/she takes very often into consideration the personal reasons of students' conduct (remaining relatively implicit that it is the teacher who primarily determines the form of communication in the classroom. Thus: 1. In the beginning of the year and sometimes along the year (whenever necessary) the teacher tells the students the norms of social conduct that should be followed in the classroom (be punctual, talk to the teacher in a respectful way, occupy the place allocated to them, do the tasks asked). 2. Whenever students alter the established order concerning the norms of social conduct of the class (e.g. they arrive late, disrupt constantly the class, do not pay attention, etc.), the teacher uses frequently personal appeals (e.g. "If you arrive late you delay the work of your classmates"; "If you do not pay attention you cannot learn") but sometimes positional appeals (e.g. "You already know you cannot arrive late"; "You should not interrupt the class constantly"; "You should pay attention when I am talking").	The teacher specify to the pupils: (a) the content matters; (b) the ordering to be followed; (c) the time to be spent; (d) how they are evaluated (making explicit the selection, the sequence, the pacing and the criteria of evaluation previously established) and he/she takes occasionally into consideration the students' intervention, reformulating, in some minor points, the selection, the sequence, the pacing and the criteria of evaluation (making relatively explicit, through a rhetoric appeal to cooperation, that it is he/she who primarily determines the form of learning. Thus: 1. In the beginning of the year, at the end of each TU/lesson and/or during the classes (whenever necessary), the teacher tells the students: (a) the knowledge, the cognitive and socio-affective competencies and the activities which will be part of learning (selection); (b) the ordering which will be followed in the learning of knowledge and competencies and in the realization of activities (sequence); (c) the period of time the students have to do the tasks (pacing); (d) the form of evaluation - type of evaluation, objectives, form of marking and also the appopriate text to the various objectives (criteria of evaluation). 2. Whenever the students intervene (or are asked to intervene) in the instructional practice (in the selection, sequence, pacing and criteria of evaluation) the teacher adjusts that intervention to his/her plan, using a direct intervention at the level of class discussion (making relatively clear that he/she is the one who determines the "what", "when", "how" the students should learn).

Figure 2 - Cont.

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P3		THEORETICAL COMPONENTS			INDICATORS IN THE CONTEXT OF THE CLASSROOM	
		Power relations (C)	Realization of power relations (F)		Realization of hierarchical rules	Realization of discoursive rules
			Regulative context (hierarchical rules)	Instructional context (discoursive rules)		
RELATIONS BETWEEN SUBJECTS	Interaction Teacher/student	Very sharp boundaries between the teacher (transmitter) and the students (acquirers). Only the teacher determines the legitimate relations between the subjects, the spaces, the discourses and the practices in the instructional and regulative contexts of the classroom: power relations transmitter-aquirer regulated by Ci^{+++}.	The form of communication between transmitter and acquirers is based upon primarily positional control modalities sometimes associated to imperative control modalities (the specific attributes of the students, concerning the norms of social conduct, are never taken into consideration), making explicit the hierarchical nature of social relations between transmitter and acquirer and, as a consequence, the power of the transmitter on the form of communication in the classroom: modality of pedagogic practice characterized, in the regulative context of the classroom by hierarchical rules Fi^{+}.	The form of learning of the students is based upon a theory of instruction exclusively centered on the transmitter (the selection, sequence, pacing and criteria of evaluation of the students are never taken into consideration), the domination of the transmitter discourse upon the acquirer discourse is made explicit and, as a consequence, the power of the transmitter on the form of learning of the acquirers: modality of pedagogic practice characterized in the instructional context of the classroom by discoursive rules Fi^{++}	The teacher indicates to the students the norms of social conduct in the classroom about: (a) punctuality; (b) occupation of space; (c) posture; (d) how to talk to the teacher; (e) participation in classroom tasks (making explicit the norms of social conduct previously established) and he/she never takes into consideration the personal reasons of students' conduct (it is made explicit that it is the teacher who exclusively determines the form of communication in the classroom. Thus: 1. In the beginning of the year and along the year (whenever necessary) the teacher tells the students the norms of social conduct that should be followed in the classroom (be punctual, talk to the teacher in a respectful way, occupy the place allocated to them, do the tasks asked). 2. Whenever the students alter the established order concerning the social conduct of the class (e.g. they arrive late, interrupt the teacher, occupy a space which is not the place allocated, reveal an incorrect attitude towards the teacher, etc.), the teacher uses positional appeals (e.g. "You already know that you can only speak when I tell") and sometimes has imperative expressions (e.g. "Shut up"; "Go immediately to your seat").	The teacher specify to the pupils: (a) the content matters; (b) the ordering which will be followed; (c) the time which will be spent in exploring the content matters; (d) how they are evaluated (making explicit the selection, the sequence, the pacing and the criteria of evaluation previously established) and he/she never takes into consideration the students' intervention in the selection, sequence, pacing and criteria of evaluation (making explicit that it is he/she who exclusively determines the form of learning of the acquirers). Thus: 1. In the beginning of the year, at the end of each TU/lesson and/or during the classes (whenever necessary), the teacher tells the students: (a) the knowledge, the cognitive and socio-affective competencies and the activities which will be part of learning (selection); (b) the ordering which will be followed in the learning of knowledge and competencies and in the realization of activities (sequence); (c) the period of time the students have to do the tasks (pacing); (d) the form of evaluation - type of evaluation, objectives, form of marking and also the appopriate text to the various objectives (criteria of evaluation). 2. Whenever the students intervene in the instructional practice of the class (in the selection, sequence, pacing and criteria of evaluation), the teacher does not permit that intervention (making clear that he/she is the one who determines the "what", "when", "how" the students should learn.

Figure 2 - Cont.

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RELATIONS BETWEEN DISCOURSES AND BETWEEN AGENCIES/SPACES		DIFFERENTIAL MODALITIES OF PEDAGOGIC CODE		
		P1	P2	P3
DISCOURSES	Academic/Non-academic	$Ce^{+}\ Fe^{-}$	$Ce^{+}\ Fe^{-}$	$Ce^{+++}\ Fe^{++}$
	Discipline/Other disciplines of the curriculum	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{-}$	$Ci^{+++}\ Fi^{++}$
	Subject matters of different level of abstraction [4]	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{-}$
	Subject matters of similar level of abstraction [5]	$Ci^{--}\ Fi^{---}$	$Ci^{--}\ Fi^{---}$	$Ci^{--}\ Fi^{---}$
AGENCIES/SPACES	School/Local institutions	$Ce^{+}\ Fe^{-}$	$Ce^{++}\ Fe^{+}$	$Ce^{+++}\ Fe^{++}$
	School/Other academic institutions	$Ci^{+}\ Fi^{-}$	$Ci^{++}\ Fi^{+}$	$Ci^{+++}\ Fi^{++}$
	Classroom/Other school spaces	$Ci^{+}\ Fi^{-}$	$Ci^{++}\ Fi^{+}$	$Ci^{+++}\ Fi^{++}$
	Teacher's space/Students' space	$Ci^{-}\ Fi^{--}$	$Ci^{++}\ Fi^{+}$	$Ci^{+++}\ Fi^{++}$
	Spaces of students of different social groups	$Ci^{--}\ Fi^{---}$	$Ci^{+}\ Fi^{-}$	$Ci^{+++}\ Fi^{++}$
	Spaces of student of different races	$Ci^{--}\ Fi^{---}$	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{-}$
	Spaces of students of different sexes	$Ci^{--}\ Fi^{---}$	$Ci^{--}\ Fi^{---}$	$Ci^{--}\ Fi^{---}$
	Spaces of students with different school achievements	$Ci^{--}\ Fi^{---}$	$Ci^{+}\ Fi^{-}$	$Ci^{+++}\ Fi^{++}$

Figure 3 - *Sociological characterization of the classroom context in the three distinct modalities of pedagogic code.*

RELATIONS BETWEEN AGENTS/SUBJECTS			DIFFERENTIAL MODALITIES OF PEDAGOGIC CODE		
			P1	P2	P3
INTERACTION TEACHER/STUDENT	General instructional practice		$Ci^{+}\ Fi^{-}$	$Ci^{++}\ Fi^{+}$	$Ci^{+++}\ Fi^{++}$
	Discoursive rules	Selection	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{+}$	$Ci^{+}\ Fi^{++}$
		Sequence	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{+}$	$Ci^{+}\ Fi^{++}$
		Pacing	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{+}$	$Ci^{+}\ Fi^{++}$
		Evaluation criteria	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{+}$	$Ci^{+}\ Fi^{++}$
	General regulative practice		$Ci^{+}\ Fi^{--}$	$Ci^{++}\ Fi^{-}$	$Ci^{+++}\ Fi^{+}$
	Hierarchical rules		$Ci^{+}\ Fi^{--}$	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{+}$
INTERACTION STUDENT/STUDENT General pedagogic context	Social class	Instructional practice	$Ci^{-}\ Fi^{-}$	$Ci^{+}\ Fi^{+}$	$Ci^{+++}\ Fi^{++}$
		Regulative practice	$Ci^{-}\ Fi^{--}$	$Ci^{+}\ Fi^{-}$	$Ci^{+++}\ Fi^{+}$
	Race	Instructional practice	$Ci^{-}\ Fi^{-}$	$Ci^{+}\ Fi^{+}$	$Ci^{+}\ Fi^{++}$
		Regulative practice	$Ci^{-}\ Fi^{--}$	$Ci^{+}\ Fi^{-}$	$Ci^{+}\ Fi^{-}$
	Gender	Instructional practice	$Ci^{-}\ Fi^{-}$	$Ci^{-}\ Fi^{-}$	$Ci^{-}\ Fi^{-}$
		Regulative practice	$Ci^{-}\ Fi^{--}$	$Ci^{-}\ Fi^{--}$	$Ci^{-}\ Fi^{--}$
	School achievement	Instructional practice	$Ci^{-}\ Fi^{-}$	$Ci^{+}\ Fi^{+}$	$Ci^{+++}\ Fi^{++}$
		Regulative practice	$Ci^{-}\ Fi^{--}$	$Ci^{+}\ Fi^{-}$	$Ci^{+++}\ Fi^{+}$
INTERACTION TEACHER/SCHOOL - FAMILY			$Ce^{+}\ Fe^{-}$	$Ce^{++}\ Fe^{+}$	$Ce^{+++}\ Fe^{++}$

Figure 3 - *Sociological characterization of the classroom context in the three distinct modalities of pedagogic code (cont.).*